**Biological Molecules Review Questions**

**Multiple Choice**

1. **How is sucrose formed?**
2. galactose & glucose **c)** galactose & β-glucose
3. glucose & glucose **d)** fructose & α-glucose

1. **Which lipid is used as insulation and energy storage?**
2. fat **c)** fatty acid
3. wax **d)** phospholipid
4. **What is the structure of wax?**
5. four carbon rings **c)** three fatty acid chains linked to glycerol
6. carboxyl group linked to a hydrocarbon chain **d)** long fatty acid chains to alcohol/carbon rings
7. **Which protein structure consists of β-pleated sheet & α-helix structures?**
8. primary structure **c)** tertiary structure
9. secondary structure **d)** quaternary structure
10. **Which nucleotide base chemical structure is not a pyrimidine?**
11. thymine **c)** cytosine
12. guanine **d)** uracil

**Short Answer**

1. **What is the structure and function of a monosaccharide and polysaccharide and give an example.**

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| --- | --- | --- | --- |
| **Type** | **Structure** | **Function** | **Example** |
| monosaccharide | chain, α-ring, or β-ring | energy source, building blocks | glucose, ribose, and deoxyribose |
| polysaccharide | very long chain or branching chain with α or β linkages | energy storage, structural support, and cell-to-cell communication | starch and cellulose |

1. **Describe how a triglyceride fat is formed.**

A triglyceride fat is formed by three fatty acid chains linked to a glycerol molecule, through dehydration synthesis between –OH functional groups on the glycerol and carboxyl functional groups on the fatty acids.